R.F. DOUBLE TRIODE

Double triode intended for use as R.F. amplifier and self oscillating mixer.

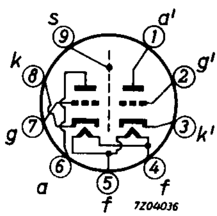
QUICK REFERENCE DATA			
Anode current	I_a	10	mA
Transconductance	S	6.7	mA/V
Amplification factor	μ	48	-

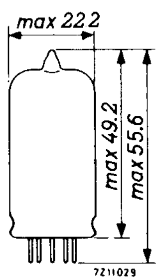
HEATING: Indirect by A.C. or D.C.; series supply

Heater current	I_f	100	mA
Heater voltage	V_f	26	V

DIMENSIONS AND CONNECTIONS Dimensions in mm

Base: Noval





CAPACITANCES (each unit unless otherwise specified)

Anode to grid	C_{ag}		1.5	pF
Anode to cathode	C_{ak}		0.18	pF
Anode to cathode + heater + screen	$C_{a/kfs}$		1.2	pF
Grid to cathode + heater + screen	$C_{g/kfs}$		3.1	pF
Anode to cathode + heater + screen (measured with external screen of 22.5 mm diam.)	$C_{a/kfs}$		1.8	pF
Anode to anode other unit	$C_{aa'}$	max.	0.04	pF
Anode to anode other unit (measured with external screen of 22.5 mm diam.)	$C_{aa'}$	max.	0.008	pF
Grid to grid other unit	$C_{gg'}$	max.	0.003	pF
Anode to grid other unit	$C_{ag'}$	max.	0.008	pF
Anode to grid other unit	$C_{a'g}$	max.	0.008	pF
Anode to cathode other unit	$C_{ak'}$	max.	0.008	pF
Grid to cathode other unit	$C_{gk'}$	max.	0.003	pF
Anode to cathode other unit	$C_{a'k}$	max.	0.008	pF
Grid to cathode other unit	$C_{g'k}$	max.	0.003	pF

TYPICAL CHARACTERISTICS (each unit)

Anode voltage	V_a	100	170	200	V
Grid voltage	V_g	-1.2[1])	-1.75	-2.4	V
Anode current	I_a	4.5	10	10	mA
Transconductance	S	4.8	6.7	6	mA/V
Amplification factor	μ	46	48	46	-

[1]) In this case grid current may occur. If this is not permissible, a condition with a bias of −1.5 V should be chosen.

OPERATING CHARACTERISTICS

As R.F. amplifier (unit a, g, k)

Supply voltage	V_b	170	170	100	V
Anode resistor	R_a	1.3	1.5	1.5	kΩ
Anode voltage	V_a	161	155	91	V
Cathode resistor	R_k	330	150	138	Ω
Grid voltage	V_g	-2.2	-1.5	-0.8	V
Anode current	I_a	6.6	9.8	5.7	mA
Transconductance	S	5.1	6.7	5.9	mA/V
Internal resistance	R_i	8.5	7	8	kΩ
Grid input resistance (f = 100 MHz)	r_g	5.2	3.8	2.8	kΩ
Equivalent noise resistance	R_{eq}	0.82	0.55	0.61	kΩ

As self oscillating additive mixer (each unit)

Anode supply voltage	V_b	100	170	200	V
Anode resistor	R_a	4.7	4.7	8.2	kΩ
Grid resistor	R_g	1	1	1	MΩ
Oscillator voltage	$V_{osc.}$	1.8	2.8	2.8	V_{RMS}
Anode current	I_a	2.7	5.5	6	mA
Conversion conductance	S_c	2.2	2.8	2.9	mA/V
Internal resistance	R_i	19	15	14	kΩ
Grid input resistance (f = 100 MHz)	r_g		15		kΩ

LIMITING VALUES (each unit) (Design centre rating system)

Anode voltage	V_{a_o}	max.	550	V
	V_a	max.	250	V
Anode dissipation	W_a	max.	2.5	W
Anode dissipation, total	W_a+W_a'	max.	4.5	W
Cathode current	I_k	max.	15	mA
Cathode to heater voltage	V_{kf}	max.	90	V
Grid voltage (negative)	$-V_g$	max.	100	V
Grid resistor	R_g	max.	1	MΩ

For curves please refer to type PCC85

PHILIPS

Data handbook

Electronic components and materials

UCC85

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4	FP	1999.07.29